

The opinion in support of the decision being entered today is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ADAM MICHAEL ESPESETH,
ROBERT ANTON STEINBACH and
TREVOR JAMES BRIGGS

Appeal 2007-0915
Application 10/764,946¹
Technology Center 2100

Decided: May 21, 2007

Before: RICHARD TORCZON, SALLY C. MEDLEY, and MARK NAGUMO, *Administrative Patent Judges*.

MEDLEY, *Administrative Patent Judge*.

DECISION ON APPEAL

A. Statement of the Case

Applicants appeal under 35 U.S.C. § 134 from a final rejection of claims 1-5 and 7-20. We have jurisdiction under 35 U.S.C. § 6(b).

¹ Application for patent filed 26 January 2004. The real party in interest is Hitachi Global Storage Technologies, Netherlands, B.V.

1 The prior art relied upon by the Examiner in rejecting the claims on
2 appeal is:

3 Clegg US 6,721,845 B1 Apr. 13, 2004
4

5 Claims 1 and 5 stand rejected under 35 U.S.C. § 103(a) as being
6 unpatentable over Clegg (Final Rejection at 3 and Answer at 3).

7 BACKGROUND

8 The invention relates to a hard disk drive (HDD) that includes at least
9 one rotatable disk and at least one data transfer element. The data transfer
10 element is controlled by a controller, which executes commands in a queue.
11 Commands are selected to be executed based on either an optimized
12 throughput benefit, or an optimized operation rate benefit.

13 **B. Issue**

14 The issue is whether Applicants have shown that the Examiner has
15 failed to sufficiently demonstrate that there is a legal basis for rejecting
16 claims 1 and 5 over Clegg?

17 For the reasons that follow, Applicants have failed to demonstrate that
18 the Examiner's rejection is legally incorrect.

19 **C. Findings of fact ("FF")**

20 The record supports the following findings of fact as well as any other
21 findings of fact set forth in this opinion by at least a preponderance of the
22 evidence.

- 23 1. Applicants' claims 1 and 5 are the subject of this appeal.
- 24 2. Claim 1 is as follows:

1 A hard disk drive (HDD) comprising:
2 at least one rotatable disk;
3 at least one data transfer element; and
4 at least one HDD controller controlling the data transfer element to
5 execute commands in a queue, at least one command being selected for
6 execution based on at least one of: an optimized throughput benefit, or
7 an optimized operation rate benefit, wherein the throughput benefit is
8 determined based at least in part on a pipe length.

9 3. Instead of reciting “or an optimized operation rate benefit” original
10 claim 1 recited “and an optimized operation rate benefit.” (‘946, original
11 claim 1.)

12 4. In a paper dated JUN 01 2006 and styled “RESPONSE TO
13 TELEPHONE INTERVIEW,” Applicants explained the change from “and”
14 to “or” as follows:

15 With respect to the changes in the claims from “and” to “or” in
16 certain instances, Applicant has been made aware of Superguide
17 Corp. v. DirectTV Enterprises, Inc., 358 F.3d 870 (Fed. Cir.
18 2004) in which a claim recitation of “at least one of A, B, C, and
19 D” was held to minimally require at least one element from each
20 of the categories A, B, C, and D, not one or more elements from
21 one or more categories as intended in the present case, with the
22 Federal Circuit noting that for the latter interpretation to hold,
23 the conjunctive “or” should be used. Accordingly, the present
24 amendment is believed to reconcile, with the Superguide case,
25 both Applicant’s intended claim scope and what Applicant
26 believes to have been the examiner’s understanding of the
27 claimed invention when examination was conducted.

28

1 5. In the Appeal Brief, under section (5) styled “Summary of Claimed
2 Subject Matter,” Applicants state that claim 1 includes “[a]t least one
3 command is selected for execution based on an optimized throughput benefit
4 (page 7 and figure 2) and/or an optimized operation rate benefit (page 8 and
5 figure 3), wherein the throughput benefit is determined based on a pipe
6 length” (Emphasis added) (Appeal Br. at 2-3).

7 6. The Examiner finally rejected independent claim 1 and dependent
8 claim 5 based on Clegg.

9 7. The Examiner argued that Clegg teaches both selecting a command
10 based on an optimized throughput benefit and an optimized operation rate
11 benefit (Answer 4).

12 8. For the optimized operation rate benefit feature, the Examiner
13 relied on Clegg column 2, lines 25-30 to column 3, line 4 (Answer 4 and 7).

14 9. In the Appeal Brief and Reply Briefs, Applicants’ argument is
15 based solely on that Clegg fails to describe “wherein the throughput benefit is
16 determined based at least in part on a *pipe length*” (emphasis added) (Appeal
17 Br. 4-5; Reply Br. 1-2, dated Sept. 19, 2006; Reply Br. 1-2, dated Oct. 25,
18 2006).

19 10. Applicants do not dispute that Clegg describes selecting a
20 command for execution based on an optimized operation rate benefit.

21 **D. Principles of Law**

22 Claim interpretation is a question of law, but the subordinate findings
23 relating to proper claim construction are issues of fact. Claim elements must
24 be construed as they would be understood by those skilled in the art. *See*

1 *Hoechst Celanese Corp. v. B.P. Chems., Ltd.*, 78 F.3d 1575, 1578, 38
2 USPQ2d 1126, 1129 (Fed. Cir. 1996).

3 **E. Analysis**

4 Claim 1, when properly interpreted, requires selection of a command
5 to be executed based on at least one of (1) an optimized throughput benefit,
6 which is determined based at least in part on a pipe length, or (2) an
7 optimized operation rate benefit (FF 2). Claim 1 does not require selection of
8 the command based on both an optimized throughput benefit and an
9 optimized rate benefit. Applicants apparently agree with this interpretation
10 (FFs 4 and 5).

11 A reference that describes either an optimized throughput benefit
12 (determined based at least in part on a pipe length) or an optimized operation
13 rate benefit meets the optimized limitation.

14 Applicants' arguments are with respect to the "optimized throughput
15 benefit" limitation, e.g., whether Clegg describes an optimized throughput
16 benefit that is determined based on pipe length (FF 9). Applicants are silent
17 with respect to whether Clegg describes an "optimized operation rate
18 benefit." Since Applicants have failed to sufficiently demonstrate that the
19 Examiner's findings that Clegg describes an "optimized operation rate
20 benefit" (FF 7) are erroneous, the Examiner's rejection of claim 1 is
21 affirmed.

22 Since Applicants do not separately address dependent claim 5 in the
23 Appeal Brief or Reply Briefs (FF 9), claim 5 stands or falls together with the
24 base rejection and therefore the rejection of claim 5 is also sustained.

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1 **E. Decision**

2 Upon consideration of the record, and for the reasons given, the
3 Examiner's rejection of claims 1 and 5 under 35 U.S.C. § 103(a) as being
4 unpatentable over Clegg is affirmed.

5 **No time period for taking any subsequent action in connection**
6 **with this appeal may be extended under 37 C.F.R. § 1.136(a).**

AFFIRMED

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